ABSTRACT OF THE DISCLOSURE

A transmitter apparatus and method for reducing PAPR in an OFDM system. The transmitter apparatus performs a masking process on an input signal block using a plurality of mask sequences in an OFDM system, and selects a specific sequence having a lowest PAPR among IFFT-processed results. The apparatus includes a single IFFT for performing an IFFT process on the received signal block, and generating an IFFT-processed sequence; a plurality of shift registers for storing individual bits of the IFFT-processed sequence, cyclically shifting them, and generating the cyclically-shifted bits; a plurality of multiplier groups for multiplying coefficients determined by corresponding mask sequences by the output bits of the shift registers; and a plurality of adders corresponding to the plurality of multiplier groups for adding the multiplied results of the multiplier groups, thereby reducing system complexity and production costs.